

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph starting at page 1, line 5 with the following amended paragraph:

This invention relates to an acrylic rubber, a crosslinkable acrylic rubber composition comprising the acrylic rubber, and a shaped article made by crosslinking and shaping the ~~crosslinkable~~ crosslinkable acrylic rubber composition.

Please replace the paragraph starting at page 1, line 10 with the following amended paragraph:

An acrylic rubber has good heat resistance and good oil resistance, and therefore, is widely used in an automobile field and related fields as a material for rubber parts which include, for example, sealers such as gasket and packing, hoses, vibration insulators, tubes and belts. ~~For giving an acrylic rubber~~ Acrylic rubbers suitable for these rubber parts, parts have a rubber elasticity ~~is imparted to an acrylic rubber~~ formed by ~~crosslink~~ crosslinking an acrylic rubber having active crosslinking sites introduced therein usually by copolymerization of 1 to 5% by weight of a crosslink-forming monomer.

Please replace the paragraph starting at page 1, last line with the following amended paragraph:

The use of monoesters of a butenedioic acid such as maleic acid and fumaric acid as a crosslink-forming monomer has been proposed in, for example, Japanese Unexamined Patent Publication S50-45031 and *ibid.* H11-92614. Especially it has been reported therein that an acrylic rubber composition comprising an acrylic rubber having copolymerized therein 0.1 to 10% by weight of a mono-lower alkyl ester of fumaric acid, and an aromatic diamine crosslinking agent and a guanidine compound crosslinking aid, gives a crosslinked product causing corrosion of metal in a lesser extent and having high heat resistance. However, this

acrylic rubber composition has a problem such that ~~scorch~~scorching is liable to occur during processing, especially at an initial shaping stage when extrusion shaping is conducted.

Please replace the paragraph starting at page 2, line 19 with the following amended paragraph:

Other objects of the present invention are to provide an acrylic rubber composition characterized as being not scorched at a time of filling the rubber composition in a mold, exhibiting good releasability from the mold, and having no mold flash remaining in the mold, in a step of molding such as compression molding, transfer molding or injection molding; and exhibiting good scorch ~~stability-resistance~~ in an initial shaping stage and giving an extruded article having a smooth surface, in a step of extrusion shaping; and further to provide a shaped article made by shaping the acrylic rubber composition.

Please replace the paragraph starting at page 3, line 14 with the following amended paragraph:

In a second aspect of the present invention, there is provided a ~~crosslinkable~~crosslinkable acrylic rubber composition comprising the above-mentioned acrylic rubber and a crosslinking agent.

Please replace the paragraph starting at page 10, line 34 with the following amended paragraph:

The acrylic rubber of the present invention preferably has a Mooney viscosity (ML_{1+4} , 100°C) in the range of 10 to 80, more preferably 20 to 70 and especially preferably 30 to 70. If the Mooney viscosity is too small, a crosslinkable rubber composition tends to have poor processability and a crosslinked rubber product is liable to have poor mechanical strength. In

contrast, if the Mooney viscosity is too large, a ~~erosslinkabe~~-crosslinkable rubber composition tends to have poor processability.

Please replace the paragraph starting at page 11, line 6 with the following amended paragraph:

The acrylic rubber of the present invention is used as a ~~erosslinkabe~~-crosslinkable acrylic rubber composition comprising the acrylic rubber and a crosslinking agent. The crosslinkable acrylic rubber composition is crosslinked into a crosslinked rubber product, which can be used for various rubber parts.

Please replace the header on page 11, line 11 with the following amended header:

~~Crosslinkabe~~-Crosslinkable Acrylic Rubber Composition

Please replace the paragraph starting at page 11, line 12, with the following amended paragraph:

The ~~erosslinkabe~~-crosslinkable acrylic rubber composition of the present invention comprises the above-mentioned acrylic rubber and a crosslinking agent. The crosslinking agent used may be any crosslinking agents conventionally used for acrylic rubber, but, amine compounds capable of easily forming a crosslinked structure by the reaction with a carboxyl group in the monomer units (A) are preferably used. A polyamine compound is especially preferable.

Please replace the paragraph starting at page 13, line 11 with the following amended paragraph:

The crosslinkable acrylic rubber composition may further comprise a ~~monamine~~ monoamine compound to prevent or suppress undesirable sticking to a metal occurring when the rubber composition is roll-milled or Banbury-treated, and thus, to improve the processability.

Please replace the paragraph starting at page 13, line 16 with the following amended paragraph:

The monoamine compound used includes aromatic ~~monamine~~ monoamine compounds and aliphatic monoamine compounds. These monoamine compounds may be any of mono-primary amine compound, mono-secondary amine compounds and mono-tertiary amine compounds. The monoamine compounds may be used either alone or as a combination of at least two thereof. In the case when the monoamine compound is used alone, a mono-primary amine compound is preferable. In the case when at least two monoamine compounds are used in combination, a combination of an aliphatic mono-secondary amine compound with an aliphatic mono-tertiary amine compound is preferable.

Please replace the paragraph starting at page 21, line 12 with the following amended paragraph:

The acrylic rubber A contained 58% of ethyl acrylate units, 40% of n-butyl acrylate units and 2% of monocyclohexyl fumarate units, and had a Mooney viscosity (ML_{1+4} , 100°C) of 45. The composition of acrylic rubber A is shown in Table 1. 100 parts of the acrylic rubber A, 60 parts of carbon black (classified as N550 according to ASTM D1765), 2 parts of stearic acid (dispersant for carbon black, and softener), and 2 parts of 4,4'-bis(α,α -dimethylbenzyl)diphenylamine (antioxidant) were kneaded together at 50°C by a Banbury mixer. To the thus-obtained mixture, 0.5 part of hexamethylenediamine carbamate (aliphatic diamine

crosslinking agent) and 2 parts of di-o-tolylguanidine (crosslinking accelerator) were added, and the mixture was kneaded together at 40°C by an open roll to obtain a ~~crosslinkable~~crosslinkable acrylic rubber composition.

Please replace the paragraph starting at page 21, line 26 with the following amended paragraph:

Mooney scorch time (t5), residual flashes and fluidity (mold filling property) of the ~~crosslinkable~~crosslinkable acrylic rubber composition, and dry physical properties (tensile strength, elongation and hardness), heat resistance (change in elongation and change in hardness) and permanent set of a crosslinked rubber product thereof were evaluated. The results are shown in Table 2.

Please replace the paragraph starting at page 21, line 34 with the following amended paragraph:

By the same procedures as mentioned in Example 1, a ~~crosslinkable~~crosslinkable acrylic rubber composition was prepared from the acrylic rubber A wherein 1.3 parts of 4,4'-diaminodiphenyl ether (aromatic diamine) was used instead of 0.5 part of hexamethylenediamine carbamate for the preparation of the rubber composition. All other conditions remained the same. Characteristics of the rubber composition were evaluated. The evaluation results are shown in Table 2.

Please replace the paragraph starting at page 22, line 12 with the following amended paragraph:

By the same procedures as mentioned in Example 1, a ~~crosslinkable~~crosslinkable acrylic rubber composition was prepared from the acrylic rubber B wherein 0.5 part of 4,4'-diaminodiphenyl ether (aromatic diamine) was used instead of 0.5 part of hexamethylenediamine

carbamate for the preparation of the rubber composition. All other conditions remained the same. Characteristics of the rubber composition were evaluated. The evaluation results are shown in Table 2.

Please replace the paragraph starting at page 22, line 29 with the following amended paragraph:

By the same procedures as mentioned in Example 1, a ~~crosslinkable~~crosslinkable acrylic rubber composition was prepared from the acrylic rubber C and characteristics of the rubber composition were evaluated. The evaluation results are shown in Table 2.

Please replace the first full paragraph on page 23 with the following amended paragraph:

As seen from Table 2, an acrylic rubber not containing units of a butenedioic acid monoester monomer having an alicyclic structure (Comparative Example 1) gives a ~~crosslinkable~~crosslinkable acrylic rubber composition exhibiting an initial Mooney scorch time (t₅) of shorter than 5 minutes and having poor process-stability.

Please replace the paragraph starting at page 23, last line with the following amended paragraph:

In contrast, the acrylic rubber of the present invention (Example 1) gives a ~~crosslinkable~~crosslinkable acrylic rubber composition exhibiting an initial Mooney scorch time (t₅) of longer than 5 minutes and having good scorch stability. This advantageous effect is enhanced in the case when an aromatic diamine is used as a crosslinking agent (Examples 2 and 3). Further, the acrylic rubber of the present invention gives a crosslinkable acrylic rubber composition having

good mold filling property and giving a crosslinked rubber article exhibiting sufficiently reduced permanent set and good heat stability (Examples 1-3).

Please replace the paragraph starting at page 24, line 26 with the following amended paragraph:

The acrylic rubber D contained 38% of ethyl acrylate units, 40% of n-butyl acrylate units, 20% of 2-methoxyethyl acrylate units and 2% of monocyclohexyl maleate units, and had a Mooney viscosity (ML_{1+4} , 100°C) of 45. The composition of acrylic rubber D is shown in Table 1. 100 parts of the acrylic rubber D, 60 parts of carbon black (classified as N550 according to ASTM D1765), 2 parts of stearic acid (dispersant for carbon black, and softener), and 2 parts of 4,4'-bis(α,α -dimethylbenzyl)- diphenylamine (antioxidant) were kneaded together at 50°C by a Banbury mixer. To the thus-obtained mixture, 0.5 part of 4,4'-diaminodiphenyl ether (aromatic polyamine crosslinking agent) and 2 parts of di-o-tolylguanidine (crosslinking accelerator) were added, and the mixture was kneaded together at 40°C by an open roll to obtain a ~~crosslinkabe~~ crosslinkable acrylic rubber composition.

Please replace the paragraph starting at page 25, line 5 with the following amended paragraph:

Mooney scorch time (t_5) and extrusion shapability of the ~~crosslinkabe~~ crosslinkable acrylic rubber composition, and dry physical properties (tensile strength, elongation and hardness), heat resistance (change in elongation and change in hardness) and permanent set of a crosslinked rubber product thereof were evaluated. The results are shown in Table 3.

Please replace the paragraph starting at page 25, line 21 with the following amended paragraph:

By the same procedures as mentioned in Example 4, a ~~crosslinkable~~crosslinkable acrylic rubber composition was prepared from the acrylic rubber E and characteristics of the rubber composition were evaluated. The evaluation results are shown in Table 3.

Please replace the paragraph starting at page 25, line 35 with the following amended paragraph:

By the same procedures as mentioned in Example 4, a ~~crosslinkable~~crosslinkable acrylic rubber composition was prepared from the acrylic rubber F and characteristics of the rubber composition were evaluated. The evaluation results are shown in Table 3.